

# Take 5 for Safety

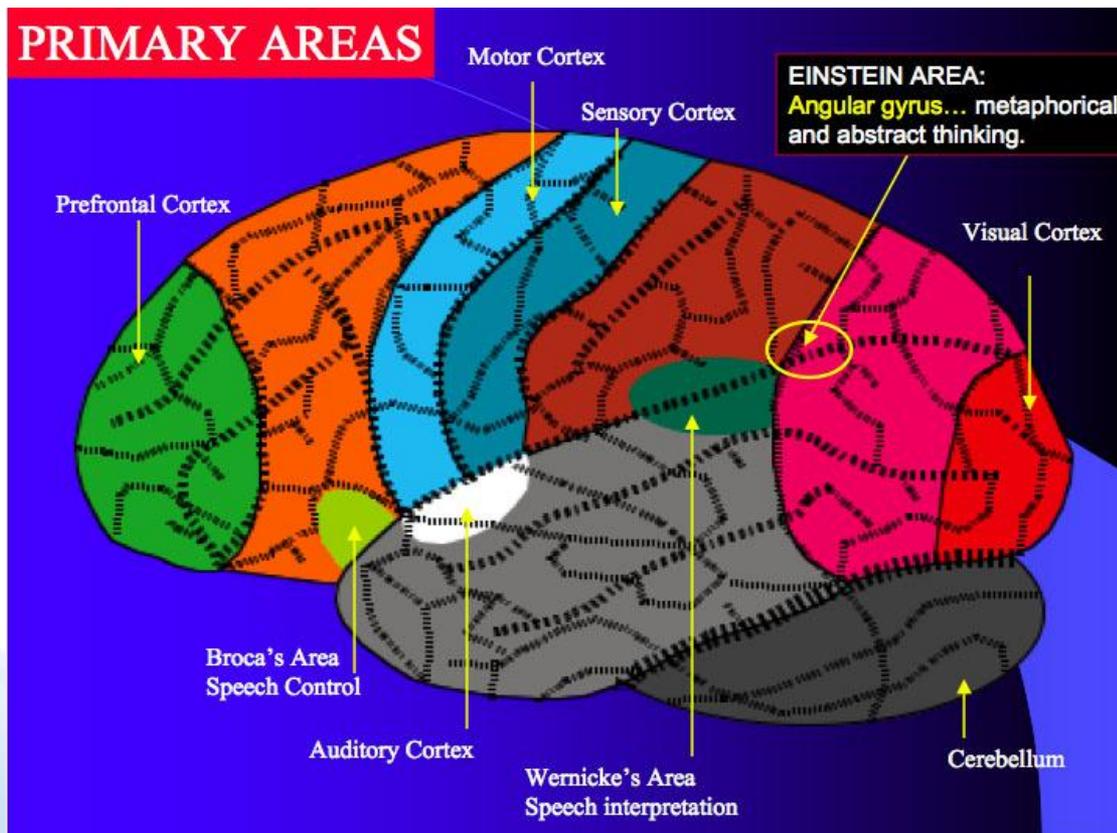
## Improving Recollection of Complex LOTO Training

Collider-Accelerator Department  
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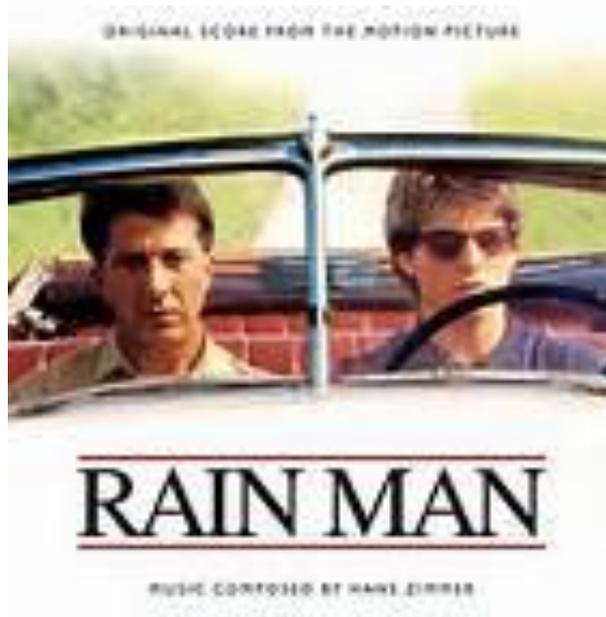


# Improving Recollection of Training

- Memories are made by converting external sources of energy into electrical patterns recognized by the brain (e.g., photons into the eye convert to electrical patterns in the visual cortex)



# Improving Recollection of Training

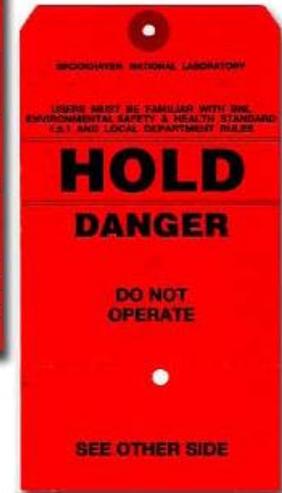
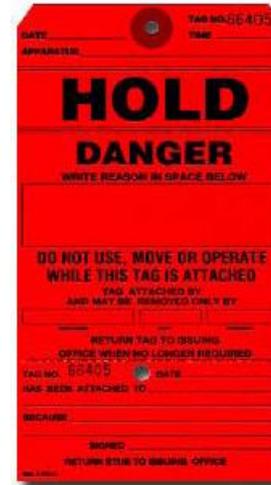


Y\_\_r d\_g ch\_s\_d th\_ c\_t  
illustrates “binding problem”

- Using several senses to create a memory (rock concert vs. password) and using spaced repetition improves recall

# Examples of Complex LOTO

- More than 1 source of hazardous energy
- More than 1 isolation point
- More than 1 craft applying LOTO
- More than 1 work location
- Both BNL and non-BNL workers are applying LOTO
- More than 1 crew is applying LOTO
- More than 1 disconnecting means
- A particular sequence that is out of the ordinary, is required for LOTO
- Piece of equipment involved cannot be locked



# Complex LOTO OJT Training

- **A supervisor must instruct each worker on job-specific requirements and procedures that need to be followed for a complex LOTO**
- **Best training approach: observe the worker performing the LOTO so that the worker creates a memory using several of their senses**
- **When confident of a worker's practical skills and job knowledge, the supervisor may authorize each worker to lock and tag equipment unsupervised**
- **Supervisors should repeat OJT periodically – repetition at infrequent intervals improves recall**